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No. 61
May 8-14, 1984

45p

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Commodore 64: two listings

AND
games to enter for the BBC and Oric/Atmos



And now for the good news...

Prices of software will drop, say a new report. "While hardware sales will probably slow down, software sales will boom."

Walter Masnick, senior consultant with EBU Information, said "This is the best forecast available. We have taken into consideration all factors, such as price changes, availability of new computers and hardware penetration of the market. We think a computer model is help us with our prediction."

Three-page summaries of software were studied in the *Comment* on page 4.

Get to grips with BASIC

If you want to do more with your micro than play games, take us to ITV on Sunday mornings from June 10 and learn the basics of BASIC.

Mr & Mrs Moore is a new half-hour series from Yorkshire TV in which Paul Harris, co-author of *Playbook*, gives an introduction to programming, allowing the subject with well known games.

Paul's first task is to move a star across the screen. After introducing fundamental commands like *LIST*, *CLS* and *RUN*, he explains the idea of loops with various like the two thirty into practice and even hopes to get the stars moving.

In the second show, he converts the morning into a television game, introducing programming and structured programming, and showing how to program simple graphics with keyboard characters.

An easy maze game provides the starting point for the use of *BASIC* and small instructions, and steps are brought in to handle a multi-choice to make programs. Finally the tools of the *BASIC* programmer's kit are brought together to make a large structured program which plays the card memory game, *patience*.

Each of the five shows *Continued* on page 4.

ZX MicroFair: first full report

From CDS, the ultimate challenge **'COLOSSUS CHESS 2-0'**

by Martin Bryant

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HOME COMPUTING WEEKLY

BRITAIN'S BRIGHTEST



PROGRAMS

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A bargain bundle for Spectrum owners — have fun with four three games and try some interesting and useful routines	
Commodore 64	20
Two games, making good use of graphics, by an BBC91 regular	
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Instead of copying disks, try helping this one build its tape-tape	
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Readers we welcome your programs, articles and tips — see the panel at the end for details	
Software buyers read your software for review to the editor. Contact him for comparisons and other photographs, as well	

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NEW!

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and rats!

**COMMODORE 64
BOOGABOO (THE FLEA)**
Author: **Indiecomp** ☐ **£7.95**
Tasty action!

Jump your way out of the
cave with Boogaboo the flea
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the insect vegetation

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the invaders.

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IDENTIKIT Spectrum 48K, BBC B/M Spectrum, Commodore 64

Identikit is an ideal introduction to the computer for young children.
All you have to do is use just two keys to select all the features you want
to build up a fleet. While you have made the fleet, you can also exercise it
through the maze, blink the eyes, smile, frown etc.

MATHS INVADERS Spectrum 128K, BBC B/M Spectrum, Commodore 64, Amstrad
Provides excellent motivation to learn simple arithmetic. Subjects covered are
addition, subtraction, multiplication and division. The invaders are coming
down the screen towards you. Load your gun with the right answer to these
questions and fire it at them before they land on you. Superb graphics and
sound play a range of difficult levels to suit any age, make this a favourite
with every child.

More titles available from

or direct from Stell Software Ltd.
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New Spectrum keyboards, and a wealth of new software, made their first public appearance at the ZX Microfair.

Attendance at the one-day show — held at north London's Alexandra Palace — was about 7,500, down probably because of the fine weather.

The new keyboards, shown by CCI and AMK, are both priced at £48.95, and provide screening of the Spectrum's PCB mode.

The CCI model, made by Reed, is more streamlined in design and comes with more colours to come. CCI is also bringing out a programmable version, with the standard Acorn-type nine-pin DIN socket, plus a joystick, at an all-in price of about £24.95.

CCI's Arthur Telford said: "That's about £10 cheaper than anyone else."

The AMK keyboard is slimmer, comes high at the back sloping to 30mm, and has 33 keys, including numeric keypad and space bar. Made of plastic, it is black with raised white keys.

As well as the Rexx Editor, CCI had a new Font program, (£19.95, 48K Spectrum). Andron came in about two months. Roubide and Panton on the same line, also £19.95.

For more serious word users, CCI's will bring out some Minis Manager Plus 80, 8A.T Manager Plus 80, Word Manager Plus 80 and Word Manager standard versions. The first three will cost £19.95 each, the fourth £5. Roubide means suitable for most Commodore-type 80-column printers and monitors.



● Fiona Thomson, director of CCI, with store standard Spectrum keyboard.

Crydal's coddy-aimed new Spectrum game, it's the "blond" £1.95, gives you the role of a sleepwalker, and you have to stride sleep across a river, avoiding the wall. Coming soon is a game arcade game called *Watership* (Amstrad £3.95) and *Zaxx 64* (£2.95), an assembler for the Commodore 64.

What's new at the Microfair

Find out what you missed.
Paul Liptrot reports on the new products he discovered



● The slimline Lo-Profile keyboard from AMK — the Spectrum PCB fits inside

Steve Rees, of Olympos, launched five £2.95 models, primarily for the ZX81 and Spectrum.

Various other video plot generators called T.L.L. (48K Spectrum, £5.95) and Mikropag is due to launch the first of a new series of £8.95 games featuring a character called Wally.

In the line, Automaton (Mama Machines), Wally, who has a flat cap and a beer belly, has to build 10 cars, ranging from a 2CV to a Rolls Royce, and things keep going wrong. Initially for the 48K Spectrum, the game will also appear for the Commodore 64. Mikropag's APC (48K Spectrum £9.95) is also out soon. Written by an air traffic controller, it includes a keyboard overlay and six levels, ranging from 15 to 60 aircraft per hour.

Chris Lloyd, of Cambridge Computing, promised a new Spectrum add-on for £20-£30 has declined to say what it is.

Proton's new program, Albert Owen, showed Dynamic Graphics, a two-page graphics package at £14.95, and automatic Dynamic Programming, coming soon, which includes an additional 130 commands and seven pre-defined sounds for games. Also for the Spectrum is Proton's new arcade game, Boats.

Digital Languages, which produces *Figures* (Fib £18, Spectrum), has another collection at *Run and RD Laboratory* is soon to offer customized software with its £55.95 *Shuttle*. Tracer is still features like *Space* and a *Space* line. A&C Campbell now has a program to add items such as automatic mirrors and printing to any word up to 255 to its Masterfile (Spectrum, £19.95). The new MP Print costs £8.95.

Teleplus showed a range of computer data costing £1.50 to £49.95 and East London Robotics plans to accept daily individual orders catalogue for the Spectrum, a prototype of which was at the last Microfair.



● Chris Johnson, of Compagny, with AS2MIC board

Chris Johnson, who designs operating systems for small sites in Sweden, concentrated his Master Virus BASIC, adding 27 amendments to the ZX81, plus it stores his high resolution plotting. Master Virus by Compagny, the SP ROM costs £19.95. The company also has a new ZX81 Printer adapter (£20) and master the AS2MIC and £17.95 on £20-25) and £30 ROM, which includes editor, assembler, linker, key repeat and graphics for £25.95.

Dennis formed a greater software company, Computer Builders (£9.95, 48K Spectrum) and has a new game for the Commodore 64 called *Pub Quiz* (£5.95) which challenges you to buy a drink while drinks.

Roy Buchanan, marketing director of Panton, and the Soundtech (£19.95) he has designed for the Spectrum plays a part in the market. It is a keyboard-type pop stack interface and sound amplifier in one unit.

which is styled to lay against the back of a Spectrum, forming a unit test.



● Valerie's new Soundtech, built by designer and marketing director Roy Buchanan

Dr Friedman has a new model of £2,245 Spectrum equipped with a space bar and, to come, a new interface model costing £19.95, including a light pen.

Automaton, the Panton company, has launched a magazine called *The Pitted Logic* and Krypton is planning new peripherals for the Spectrum and the Electron.

Trafalgar (48K Spectrum, £5.95) is now from New Generation and wireless collecting and copying documents on the screen of 300. Compagone brought out its first software, Microkron (48K Spectrum, £5.95), an educational operation and answer game.

Shinichi Katsuragi showed the QL and other programs including Japanese versions of Hudson, a Japanese company.

● The next ZX Microfair is due to be held on September 5, again at Alexandra Palace.

Where to find them

In order of appearance:
CCI Ltd, 174-176 Tottenham Road, NW2 6PL, London N16
AMK, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Good news

From front page

UK: Steady but stable below

	1987/88	1988	1989
Arcade games	£10.1m	£2.9m	£2.6m
Adventure games	£14.1m	£1.8m	£4.3m
Children's educational programs	£10.1m	£1.2m	£2.2m

"The sale of arcade games will reach its peak in 1987," says Mr Minto.

"After this, growth will taper off. Adventure games will become almost as popular as arcade games by 1989, and children's educational games will see a massive boost in popularity, overtaking arcade games by 1988."

"As for hardware, the Spectrum still dominates the market, with predicted sales in 1984 of £135m, compared with £105m in 1983. Although this seems like a drop in sales, we must take into account the fact that the unit price has been lowered. Most computers will still not be as easy to use in 1985. Spectrum's share of the market was 15 per cent with the VIC-20 and Commodore 64 in second place."

"The Americans are still leading the field with home computer software packages," he continues. "With the exception of Palm for the Macintosh, best-selling software is mostly imported. In particular, nearly all Commodore programs are imported."

"The future for the software trade will rely heavily on licensing, according to Mr Minto. A particular broad market, once well known, will attract customers to buy regardless of the program. Increasing awareness of product names will become more and more important. This is where the big computer will be able to catch up, as their promotional budgets will be huge."

"The general trend in software prices will be downwards," says Mr Minto. "Lower priced software sells more packages than more expensive software. This is where the small order firm loses out, since they are slow to react and less sensitive to price changes. Mail order sales will become less frequent. At the moment Boco and W. H. Smith sell 20 per cent of all software in the UK."

EDU Information is the information technology wing of the Economist Group, which publishes the *Economist* magazine. EIU Information is a consultancy service which specialises in research and analysis. Reports on the

software market in West Germany and France are still to be published.

"In its depth report, Markets for Microcomputer Software in Europe, was completed at the end of 1983 and comprises a five-volume series: the UK volume costs £1,180.

EDU Information, Spencer House, 27 St James's Place, London SW1A 1NT

BASIC

From front page

features a joint appearance by an unusual second-year One Week job in a Midlands town who says his Spectrum is helping with his construction studies, another work in a Yorkshire primary who uses him to promote learning patterns.

Adam Hunt, Davies, producer, said: "These programs will provide the building blocks from which even the complete beginner could develop programs. We hope the series will interest 12-year-olds with access to a micro, as well as the more seasoned programmers."

Paul Harris, music graduate and former teacher, now works full-time on television and radio. He is a keen computer buff and has been experimenting with different ways of teaching computing to children for some time.

Back-up support for the series is provided by a book, also called *Me & My Micro*, by Paul Shorro, published by the National Extension College. Price £2.95 (also on cassette).

Further back-up material includes listings of all programs used in the series, word-processing of the series, comments and suggestions. Send a s.p. to Mr & Mrs Minto, Adam L. Lock 135 175.

Yorkshire TV, TV Centre, Leeds LS1 1LS

Briefly

Just out from Intrepid — *Excel* and the *Ladders*, for the Extended BASIC 31-99/4A. This simulated space probe adventure sells at £2.95.

Intrepid, Greenhead Rd, Penrith, Cumbria CA10 3DU

Debut for new games

New games were given their first public airing at the PCC Show show.

From South, respondents in new packages, were Turle Jump at £9.99 and Mathematical Synthesizer at £14.99, both for the Commodore 64. Mathematical Synthesizer was originally on the VIC-20 but has been re-written for the Commodore 64 to make use of its enhanced sound.

Turle, the arcade game company that moved to computers, released *Compoed* for the Commodore 64. It features impressive 10 graphics and fast action with the player trying to destroy different planets portrayed by fractal stars.

Creative Systems, the new name for Thera Elin's software firm, is releasing *Black Hawk* for the Commodore 64. The game is a good reproduction of *Knight* and plays Wagner's *Ride of the Valkyries*. It also has two new releases for the Spectrum: *On Attack* and *Tower of Babel*. As released are all of Thera Elin's older titles are concrete instead of more expensive computers.

Yvonne had a large balloon flying above the show and had the typically named *Reverie of the Kites*. Transfers for the Spectrum and Peng for the BBC.

The Newmarket Puzzle, a cube game presented as the Spectrum, has now been released for the C64/Amiga by Touch along with a revised version of its Chess program that is also transfer for the new Amiga. Chess costs £9.99 and Newmarket Puzzle at £1.95.

Autogame has imported a new range of American software on disc for the Commodore 64. *Algor* is Computerised is an adventure linked with a series of games all on the subject of Alan in Wonderland and Through the Looking Glass. *Pagan* presents in charge of a wizard horse fighting the forces of evil, suitably equipped with magic spells. Both cost £12.95 and are available on cassette as well as £8.95.

Mathematics, the new company that closed a tie by selling games at £9.99 and £12.99, was displaying at range of about 20 games for whole range a new C19. Director Martin Alper explained: "When we bought the games in some were better than others and cost more. We thought we could recoup our costs by selling them at the higher price,

but we decided that the £2.99 price took the software out of the pocket money price range." Mr Alper said the marketing strategy was successful because "we have already sold over 100,000 games in Britain."

Bill Mason, of Lismore, was showing his field testing a pre-production version of his *Little Mathematics*, *Sleep in Space*. You play a sheep, grazing when are progressively killed as farmers, using up time your pieces from clouds and lakes.

Mike Roberts

Space school

Koonin has followed as French Museum program with *Amos* Black, an educational program for the BBC/Amos. This package, costing £10.95, contains a series of games on general knowledge for the C64 111 with a space-age theme, in 64 colors to teach and assess.

Followed, against, each covering a different topic, are *Amos*, with a total of 750 questions and 1000 answers covering Science, history, geography, astronomy, music and sports, are among the categories of questions. Multiple choice, true or false and explain the answer are the options available. The questions are fired at you by a robot from a laser beam, and if you answer correctly you stay close to a space ship.

New questions may be created and questions may be repeated at virtually unlimited Koonin plans to release a Spectrum version shortly, as well as a transfer one for under-11s. Koonin, 1 Polymex Close, Wokingham, Berkshire, RG40 3LN

Slinky's star turn

Slinky is the First of Autodesk's new Commodore 64 disc games. Selling at £12.99, Autodesk claims that Slinky sets new standards in graphics and sound, combining the visual capabilities of the arcade with the instruction of adventure games.

When Slinky begins on a colored block it changes color. The Wicked Wizard and his minions are after Slinky, and Slinky's adventures continue through 99 different levels. Only the Dark Cloud and Magic the Magician are two of the characters who star in the game. Autodesk, PO Box 88, Reading, Berks

Games... and more for you Spectrum

Rolling for 5000 goals

This program puts you in the shoes of a millionaire having to make your way through a field of machines.

As the Spectrum has no scroll command in BASIC, I FORCED the character onto the screen. This makes *Rolling* a fast and lively moving game.

As a bonus, there are also games of *Irish* which are displayed at random. Rolling a four gives you 10 extra points and every scroll gives you one extra point.

There is a high score facility and the graphics are good.

You have three lives and you lose one every time you run into a machine.

At 100 points the game becomes speed and you lose for every further 100 points you score. To move left press 3 and to move right press 4.

Rolling for 5000 goals

This game was inspired by the BASIC game, *Irish*, which appeared in issue 45 of *SPECTRUM*. As with *Irish*, the object is to make a goal of 10 against all odds.

Initially each player is set

Variables
END array stores values of each agent
 1,2 current position
 3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,132,133,134,135,136,137,138,139,140,141,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,158,159,160,161,162,163,164,165,166,167,168,169,170,171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186,187,188,189,190,191,192,193,194,195,196,197,198,199,200,201,202,203,204,205,206,207,208,209,210,211,212,213,214,215,216,217,218,219,220,221,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237,238,239,240,241,242,243,244,245,246,247,248,249,250,251,252,253,254,255,256,257,258,259,260,261,262,263,264,265,266,267,268,269,270,271,272,273,274,275,276,277,278,279,280,281,282,283,284,285,286,287,288,289,290,291,292,293,294,295,296,297,298,299,300,301,302,303,304,305,306,307,308,309,310,311,312,313,314,315,316,317,318,319,320,321,322,323,324,325,326,327,328,329,330,331,332,333,334,335,336,337,338,339,340,341,342,343,344,345,346,347,348,349,350,351,352,353,354,355,356,357,358,359,360,361,362,363,364,365,366,367,368,369,370,371,372,373,374,375,376,377,378,379,380,381,382,383,384,385,386,387,388,389,390,391,392,393,394,395,396,397,398,399,400,401,402,403,404,405,406,407,408,409,410,411,412,413,414,415,416,417,418,419,420,421,422,423,424,425,426,427,428,429,430,431,432,433,434,435,436,437,438,439,440,441,442,443,444,445,446,447,448,449,450,451,452,453,454,455,456,457,458,459,460,461,462,463,464,465,466,467,468,469,470,471,472,473,474,475,476,477,478,479,480,481,482,483,484,485,486,487,488,489,490,491,492,493,494,495,496,497,498,499,500,501,502,503,504,505,506,507,508,509,510,511,512,513,514,515,516,517,518,519,520,521,522,523,524,525,526,527,528,529,530,531,532,533,534,535,536,537,538,539,540,541,542,543,544,545,546,547,548,549,550,551,552,553,554,555,556,557,558,559,560,561,562,563,564,565,566,567,568,569,570,571,572,573,574,575,576,577,578,579,580,581,582,583,584,585,586,587,588,589,590,591,592,593,594,595,596,597,598,599,600,601,602,603,604,605,606,607,608,609,610,611,612,613,614,615,616,617,618,619,620,621,622,623,624,625,626,627,628,629,630,631,632,633,634,635,636,637,638,639,640,641,642,643,644,645,646,647,648,649,650,651,652,653,654,655,656,657,658,659,660,661,662,663,664,665,666,667,668,669,670,671,672,673,674,675,676,677,678,679,680,681,682,683,684,685,686,687,688,689,690,691,692,693,694,695,696,697,698,699,700,701,702,703,704,705,706,707,708,709,710,711,712,713,714,715,716,717,718,719,720,721,722,723,724,725,726,727,728,729,730,731,732,733,734,735,736,737,738,739,740,741,742,743,744,745,746,747,748,749,750,751,752,753,754,755,756,757,758,759,760,761,762,763,764,765,766,767,768,769,770,771,772,773,774,775,776,777,778,779,780,781,782,783,784,785,786,787,788,789,790,791,792,793,794,795,796,797,798,799,800,801,802,803,804,805,806,807,808,809,810,811,812,813,814,815,816,817,818,819,820,821,822,823,824,825,826,827,828,829,830,831,832,833,834,835,836,837,838,839,840,841,842,843,844,845,846,847,848,849,850,851,852,853,854,855,856,857,858,859,860,861,862,863,864,865,866,867,868,869,870,871,872,873,874,875,876,877,878,879,880,881,882,883,884,885,886,887,888,889,890,891,892,893,894,895,896,897,898,899,900,901,902,903,904,905,906,907,908,909,910,911,912,913,914,915,916,917,918,919,920,921,922,923,924,925,926,927,928,929,930,931,932,933,934,935,936,937,938,939,940,941,942,943,944,945,946,947,948,949,950,951,952,953,954,955,956,957,958,959,960,961,962,963,964,965,966,967,968,969,970,971,972,973,974,975,976,977,978,979,980,981,982,983,984,985,986,987,988,989,990,991,992,993,994,995,996,997,998,999,1000,1001,1002,1003,1004,1005,1006,1007,1008,1009,1010,1011,1012,1013,1014,1015,1016,1017,1018,1019,1020,1021,1022,1023,1024,1025,1026,1027,1028,1029,1030,1031,1032,1033,1034,1035,1036,1037,1038,1039,1040,1041,1042,1043,1044,1045,1046,1047,1048,1049,1050,1051,1052,1053,1054,1055,1056,1057,1058,1059,1060,1061,1062,1063,1064,1065,1066,1067,1068,1069,1070,1071,1072,1073,1074,1075,1076,1077,1078,1079,1080,1081,1082,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,1105,1106,1107,1108,1109,1110,1111,1112,1113,1114,1115,1116,1117,1118,1119,1120,1121,1122,1123,1124,1125,1126,1127,1128,1129,1130,1131,1132,1133,1134,1135,1136,1137,1138,1139,1140,1141,1142,1143,1144,1145,1146,1147,1148,1149,1150,1151,1152,1153,1154,1155,1156,1157,1158,1159,1160,1161,1162,1163,1164,1165,1166,1167,1168,1169,1170,1171,1172,1173,1174,1175,1176,1177,1178,1179,1180,1181,1182,1183,1184,1185,1186,1187,1188,1189,1190,1191,1192,1193,1194,1195,1196,1197,1198,1199,1200,1201,1202,1203,1204,1205,1206,1207,1208,1209,1210,1211,1212,1213,1214,1215,1216,1217,1218,1219,1220,1221,1222,1223,1224,1225,1226,1227,1228,1229,1230,1231,1232,1233,1234,1235,1236,1237,1238,1239,1240,1241,1242,1243,1244,1245,1246,1247,1248,1249,1250,1251,1252,1253,1254,1255,1256,1257,1258,1259,1260,1261,1262,1263,1264,1265,1266,1267,1268,1269,1270,1271,1272,1273,1274,1275,1276,1277,1278,1279,1280,1281,1282,1283,1284,1285,1286,1287,1288,1289,1290,1291,1292,1293,1294,1295,1296,1297,1298,1299,1300,1301,1302,1303,1304,1305,1306,1307,1308,1309,1310,1311,1312,1313,1314,1315,1316,1317,1318,1319,1320,1321,1322,1323,1324,1325,1326,1327,1328,1329,1330,1331,1332,1333,1334,1335,1336,1337,1338,1339,1340,1341,1342,1343,1344,1345,1346,1347,1348,1349,1350,1351,1352,1353,1354,1355,1356,1357,1358,1359,1360,1361,1362,1363,1364,1365,1366,1367,1368,1369,1370,1371,1372,1373,1374,1375,1376,1377,1378,1379,1380,1381,1382,1383,1384,1385,1386,1387,1388,1389,1390,1391,1392,1393,1394,1395,1396,1397,1398,1399,1400,1401,1402,1403,1404,1405,1406,1407,1408,1409,1410,1411,1412,1413,1414,1415,1416,1417,1418,1419,1420,1421,1422,1423,1424,1425,1426,1427,1428,1429,1430,1431,1432,1433,1434,1435,1436,1437,1438,1439,1440,1441,1442,1443,1444,1445,1446,1447,1448,1449,1450,1451,1452,1453,1454,1455,1456,1457,1458,1459,1460,1461,1462,1463,1464,1465,1466,1467,1468,1469,1470,1471,1472,1473,1474,1475,1476,1477,1478,1479,1480,1481,1482,1483,1484,1485,1486,1487,1488,1489,1490,1491,1492,1493,1494,1495,1496,1497,1498,1499,1500,1501,1502,1503,1504,1505,1506,1507,1508,1509,1510,1511,1512,1513,1514,1515,1516,1517,1518,1519,1520,1521,1522,1523,1524,1525,1526,1527,1528,1529,1530,1531,1532,1533,1534,1535,1536,1537,1538,1539,1540,1541,1542,1543,1544,1545,1546,1547,1548,1549,1550,1551,1552,1553,1554,1555,1556,1557,1558,1559,1560,1561,1562,1563,1564,1565,1566,1567,1568,1569,1570,1571,1572,1573,1574,1575,1576,1577,1578,1579,1580,1581,1582,1583,1584,1585,1586,1587,1588,1589,1590,1591,1592,1593,1594,1595,1596,1597,1598,1599,1600,1601,1602,1603,1604,1605,1606,1607,1608,1609,1610,1611,1612,1613,1614,1615,1616,1617,1618,1619,1620,1621,1622,1623,1624,1625,1626,1627,1628,1629,1630,1631,1632,1633,1634,1635,1636,1637,1638,1639,1640,1641,1642,1643,1644,1645,1646,1647,1648,1649,1650,1651,1652,1653,1654,1655,1656,1657,1658,1659,1660,1661,1662,1663,1664,1665,1666,1667,1668,1669,1670,1671,1672,1673,1674,1675,1676,1677,1678,1679,1680,1681,1682,1683,1684,1685,1686,1687,1688,1689,1690,1691,1692,1693,1694,1695,1696,1697,1698,1699,1700,1701,1702,1703,1704,1705,1706,1707,1708,1709,1710,1711,1712,1713,1714,1715,1716,1717,1718,1719,1720,1721,1722,1723,1724,1725,1726,1727,1728,1729,1730,1731,1732,1733,1734,1735,1736,1737,1738,1739,1740,1741,1742,1743,1744,1745,1746,1747,1748,1749,1750,1751,1752,1753,1754,1755,1756,1757,1758,1759,1760,1761,1762,1763,1764,1765,1766,1767,1768,1769,1770,1771,1772,1773,1774,1775,1776,1777,1778,1779,1780,1781,1782,1783,1784,1785,1786,1787,1788,1789,1790,1791,1792,1793,1794,1795,1796,1797,1798,1799,1800,1801,1802,1803,1804,1805,1806,1807,1808,1809,1810,1811,1812,1813,1814,1815,1816,1817,1818,1819,1820,1821,1822,1823,1824,1825,1826,1827,1828,1829,1830,1831,1832,1833,1834,1835,1836,1837,1838,1839,1840,1841,1842,1843,1844,1845,1846,1847,1848,1849,1850,1851,1852,1853,1854,1855,1856,1857,1858,1859,1860,1861,1862,1863,1864,1865,1866,1867,1868,1869,1870,1871,1872,1873,1874,1875,1876,1877,1878,1879,1880,1881,1882,1883,1884,1885,1886,1887,1888,1889,1890,1891,1892,1893,1894,1895,1896,1897,1898,1899,1900,1901,1902,1903,1904,1905,1906,1907,1908,1909,1910,1911,1912,1913,1914,1915,1916,1917,1918,1919,1920,1921,1922,1923,1924,1925,1926,1927,1928,1929,1930,1931,1932,1933,1934,1935,1936,1937,1938,1939,1940,1941,1942,1943,1944,1945,1946,1947,1948,1949,1950,1951,1952,1953,1954,1955,1956,1957,1958,1959,1960,1961,1962,1963,1964,1965,1966,1967,1968,1969,1970,1971,1972,1973,1974,1975,1976,1977,1978,1979,1980,1981,1982,1983,1984,1985,1986,1987,1988,1989,1990,1991,1992,1993,1994,1995,1996,1997,1998,1999,2000,2001,2002,2003,2004,2005,2006,2007,2008,2009,2010,2011,2012,2013,2014,2015,2016,2017,2018,2019,2020,2021,2022,2023,2024,2025,2026,2027,2028,2029,2030,2031,2032,2033,2034,2035,2036,2037,2038,2039,2040,2041,2042,2043,2044,2045,2046,2047,2048,2049,2050,2051,2052,2053,2054,2055,2056,2057,2058,2059,2060,2061,2062,2063,2064,2065,2066,2067,2068,2069,2070,2071,2072,2073,2074,2075,2076,2077,2078,2079,2080,2081,2082,2083,2084,2085,2086,2087,2088,2089,2090,2091,2092,2093,2094,2095,2096,2097,2098,2099,2100,2101,2102,2103,2104,2105,2106,2107,2108,2109,2110,2111,2112,2113,2114,2115,2116,2117,2118,2119,2120,2121,2122,2123,2124,2125,2126,2127,2128,2129,2130,2131,2132,2133,2134,2135,2136,2137,2138,2139,2140,2141,2142,2143,2144,2145,2146,2147,2148,2149,2150,2151,2152,2153,2154,2155,2156,2157,2158,2159,2160,2161,2162,2163,2164,2165,2166,2167,2168,2169,2170,2171,2172,2173,2174,2175,2176,2177,2178,2179,2180,2181,2182,2183,2184,2185,2186,2187,2188,2189,2190,2191,2192,2193,2194,2195,2196,2197,2198,2199,2200,2201,2202,2203,2204,2205,2206,2207,2208,2209,2210,2211,2212,2213,2214,2215,2216,2217,2218,2219,2220,2221,2222,2223,2224,2225,2226,2227,2228,2229,2230,2231,2232,2233,2234,2235,2236,2237,2238,2239,2240,2241,2242,2243,2244,2245,2246,2247,2248,2249,2250,2251,2252,2253,2254,2255,2256,2257,2258,2259,2260,2261,2262,2263,2264,2265,2266,2267,2268,2269,2270,2271,2272,2273,2274,2275,2276,2277,2278,2279,2280,2281,2282,2283,2284,2285,2286,2287,2288,2289,2290,2291,2292,2293,2294,2295,2296,2297,2298,2299,2300,2301,2302,2303,2304,2305,2306,2307,2308,2309,2310,2311,2312,2313,2314,2315,2316,2317,2318,2319,2320,2321,2322,2323,2324,2325,2326,2327,2328,2329,2330,2331,2332,2333,2334,2335,2336,2337,2338,2339,2340,2341,2342,2343,2344,2345,2346,2347,2348,2349,2350,2351,2352,2353,2354,2355,2356,2357,2358,2359,2360,2361,2362,2363,2364,2365,2366,2367,2368,2369,2370,2371,2372,2373,2374,2375,2376,2377,2378,2379,2380,2381,2382,2383,2384,2385,2386,2387,2388,2389,2390,2391,2392,2393,2394,2395,2396,2397,2398,2399,2400,2401,2402,2403,2404,2405,2406,2407,2408,2409,2410,2411,2412,2413,2414,2415,2416,2417,2418,2419,2420,2421,2422,2423,2424,2425,2426,2427,2428,2429,2430,2431,2432,2433,2434,2435,2436,2437,2438,2439,2440,2441,2442,2443,2444,2445,2446,2447,2448,2449,2450,2451,2452,2453,2454,2455,2456,2457,2458,2459,2460,2461,2462,2463,2464,2465,2466,2467,2468,2469,2470,2471,2472,2473,2474,2475,2476,2477,2478,2479,2480,2481,2482,2483,2484,2485,2486,2487,2488,2489,2490,2491,2492,2493,2494,2495,2496,2497,2498,2499,2500,2501,2502,2503,2504,2505,2506,2507,2508,2509,2510,2511,2512,2513,2514,2515,2516,2517,2518,2519,2520,2521,2522,2523,2524,2525,2526,2527,2528,2529,2530,2531,2532,2533,2534,2535,2536,2537,2538,2539,2540,2541,2542,2543,2544,2545,2546,2547,2548,2549,2

SPECTRUM PROGRAMS

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900 IF k<>"6" THEN GO TO 100
910 IF s=4 THEN GO TO 810
920 LET nx=n+1: LET ny=y
930 IF nx=nx AND y=ny THEN GO
TO 810
940 GO TO 1200
1000 IF k<>"7" THEN GO TO 110
0
1020 IF s=1 THEN GO TO 810
1030 LET nx=n-1: LET ny=y
1040 GO TO 930
1100 IF k<>"8" THEN GO TO 810
1120 IF y=4 THEN GO TO 810
1130 LET ny=y+1: LET nx=x
1140 GO TO 930
1200 REM CHECK
1205 BEEP .1,2*VAL k$
1210 LET moves=moves+1
1220 PRINT AT 17,23;"MOVES ";mo
ves
1230 IF a(nx,ny)=on THEN LET a
nx,ny)=tw: GO TO 1250
1240 IF a(nx,ny)=tw THEN LET a
nx,ny)=on
1250 GO SUB 3400
1260 LET ox=x: LET x=nx: LET oy
=y: LET y=ny
1270 FOR i=1 TO 4
1280 FOR n=1 TO 4
1290 IF a(i,n)<=13,11 THEN LE
T n=i: LET i=0
1300 IF n=4 AND i=4 THEN GO TO
1400
1310 NEXT n
1320 NEXT i
1330 GO TO 810
1400 REM FINISH
1410 IF moves<low THEN LET low
=moves
1420 PRINT AT 18,23;"LOWEST ";l
ow
1430 GO SUB 4800
1440 PRINT AT 20,5;"PRESS ANY K
EY FOR NEW GAME"
1470 IF INKEY$="" THEN GO TO 1
470
1540 FOR j=1 TO 32
1550 PRINT ;" ";POKE 23492,255
1560 NEXT j
1590 GO TO 310
2999 STOP
3000 REM GO SUB AREA
3010 LET k=INKEY$
3020 IF k<>"0" AND k<>"1" AND
k<>"2" AND k<>"3" AND k<>"4
" AND k<>"5" AND k<>"6" AND k
<>"7" THEN GO TO 3010
3030 LET col=VAL k$

```

```

3040 IF INKEY$="" THEN GO TO
3040
3070 RETURN
3100 REM GO SUB PRINT
3110 FOR s=1 TO 4
3140 FOR n=1 TO 4
3170 FOR j=1 TO 1
3180 FOR i=1 TO 1
3190 PRINT INK a(i,n);AT 4*i+j
,4*n+1;"█"
3200 NEXT i
3210 NEXT j
3220 NEXT n
3230 NEXT s
3250 PRINT INK a(x,y); FLASH 1
;AT x+4,y+4;"█"
3290 RETURN
3400 IF ox=0 THEN GO TO 3440
3430 PRINT INK a(ox,oy);AT ox*
4,oy+4;"█"
3440 PRINT INK a(x,y); INVERSE
1;AT x+4,y+4;"x"
3450 FOR j=1 TO 1
3460 FOR i=1 TO 1
3470 PRINT INK a(nx,ny);AT 4*n
x+j,4*ny+1;"█"
3480 NEXT i
3490 NEXT j
3500 PRINT INK a(nx,ny); FLASH
1;AT 4*nx,4*ny;"█"
3550 RETURN
3610 PRINT AT 2,23;"REVERSAL"
3620 PRINT
3630 PRINT TAB 19;"Make all";TA
B 19;"squares the";TAB 19;"same
colour";TAB 19;"as few moves";
TAB 19;"as possible"
3640 PRINT
3650 PRINT TAB 19;"You are here
"; FLASH 1;"█"
3660 PRINT
3670 PRINT TAB 19;"You can not"
;TAB 19;"move back to";TAB 19;"
last square x"
3680 RETURN
4000 REM Music
4010 BEEP .25,8: BEEP .25,3: B
E
4020 BEEP .25,5: BEEP 1.25,7
4030 BEEP .25,8: BEEP .25,3: B
E
4040 BEEP .25,5: BEEP 1.25,7
4050 BEEP .25,8: BEEP .25,3: B
E
4060 BEEP .25,5: BEEP .5,7
4070 BEEP .5,3: BEEP .5,8: BEEP
.5,3: BEEP 1.25,2
4080 RETURN
8990 STOP
9000 SAVE "Reversal"
9010 PRINT "RE-MIND TO VERIFY"
9020 VERIFY "Reversal"

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SPECTRUM PROGRAMS

preserve the machine code.

All the DRAWing should be kept within the left of the screen and should be done with temporary colour commands. It pays to have the INK control with the PAPER and you've realised that your drawing program works. Then change the INK to the same colour as the PAPER.

At the end of the picture drawing sequence place RANDOMISE USR 65000

The routine can be saved with SAVE "name" SAVE "name", CODE 65000, 50

Once SAVED, it can be LOADED with

LOAD "" LOAD "" CODE 65000, 50

How it works

60-200 PAPER
PAPER for a INK Spectrum the value 65000 should be changed to 15499

70-110 is a routine that checks to see the DATA is correct.

100-120 do the necessary READ-ing and PLOTING

140-150 return to the PAPER
There are 10 lines, each with 100 dots, except for 100 which has four dots

160-180 set up parameter colour values, it also checks PAPER, and sets PAPER

190-200 variables
PAPER is yellow, code on the left. Changing the PAPER, so when you produce a colour code on what PAPER, it is an absolute code

200-220 colour codes, clearing dot

240 moves center of circle up by one point

260 looks back to 170

280-290 are the instructions for the machine code being. Don't fool them in — they can't do anything. They're there for those who are interested in working out how the program works.

Second Pattern, as the same happens, shows you what would look like by repeatedly it is shown on the screen, a little later than horizontal position as before.

When it's time to run a DRAW and DRAW. When the screen stops STOP meaning, 100's game CODE ENTERED. You continue to play found into the computer via the current leads.

It is also possible to use your computer's internal monitor — it's yours but use — it can be used if you have time to play.

Listing for Space Invaders

```

10 SCREEN 0: PAPER 0: RIGHT 1: CLR 0: GO SUB 2000
20 GO SUB 2000
30 LET RIGHT=0: LET RIGHT 0: GO SUB 2000: PRINT " " 0: GO SUB 2000
40 IF INCH=0: ON INCH=0: THEN GO TO 50
50 IF INCH=0: ON INCH=0: THEN GO TO 50
60 GO TO 10
70 GO TO 10
80 GO SUB 2000
90 LET RIGHT
100 SCREEN 0: PAPER 0: LEFT 1: RIGHT 1: GO SUB 2000: CLR 0: GO SUB 2000
110 LET RIGHT
120 LET RIGHT
130 LET RIGHT
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160 LET RIGHT
170 LET RIGHT
180 LET RIGHT
190 LET RIGHT
200 LET RIGHT
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990 LET RIGHT

```

Color Plotter by Peter Scott

Most computer users are used to plotting graphs using a 40x200. Last time, but equally important, we graphed in polar coordinates, in which

SPECTRUM PROGRAMS

```

0499 REX          << MEMONICS >>
0500 REX      ld HL,16384
0510 REX      ld B,192
0520 REX      push BC
0530 REX      ld D,H
0540 REX      ld C,B
0550 REX      ld B,16
0560 REX      inc DE
0570 REX      djnz,-1
0580 REX      ld BC,16
0590 REX      ldir
0600 REX      ld B,16
0610 REX      inc HL
0620 REX      djnz,-1
0630 REX      pop BC
0640 REX      djnz,-19
0650 REX      ld HL,16384
0660 REX      ld B,192
0670 REX      push BC
0680 REX      ld A,B
0690 REX      ld B,16
0700 REX      ld(HL),A
0710 REX      inc HL
0720 REX      djnz,-2
0730 REX      ld B,16
0740 REX      inc HL
0750 REX      djnz,-1
0760 REX      pop BC
0770 REX      djnz,-15

```

Learning from Successful Partners

[illegible]

Abstract

```

10 BORDER = 0 LET A=0
20 LET B=-.527E+03
30 PRINT AT 0,0,"DRAW PLOTTER"
40 GOTO 1,0
50 IF B=0, AT 1,0, "*****"
60 TURN 24, 0
70 FOR I=0 TO 30
80 LET I=I+.001E+03
90 LET A=ABS(A)
100 LET C=PI*ACOS(I)
110 LET B=PI*ACOS(I)
120 IF ABS(A) OR ABS(B) THEN
130 LET A=-.527E+03
140 LET B=-.527E+03
150 GOTO 1,0
160 GOTO 1,0
170 GOTO 1,0
180 GOTO 1,0
190 GOTO 1,0
200 GOTO 1,0
210 GOTO 1,0
220 GOTO 1,0
230 GOTO 1,0
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PLEASE SEND FOR FURTHER DETAILS ON YOUR
PROGRAMMES

NAME
ADDRESS

POSTCODE

Percy Penguin \$2K BBC £7.95

Software, Dept. C, Grosvenor Tower,
Barnes House, Barnes Lane,
Leeds

Percy is trapped in an ice maze surrounded by deadly Seodons. You shoot penguins the penguins send in an order to shoot into another ice cube or the water. Any unfortunate Seodons in the path are crushed.

The graphics are fairly good, the movements is slow. After crashing on ice cube Percy must wait for a second or two, leaving the Seodons a chance to kill him. Three points are awarded for hitting an opponent rather than to get lost in, with loss a Seodons quite sufficient.

The same two good songs. As you start the opening tune of "Seodons" are played and throughout music is played. The instructions are quite clear and concise. For some reason an unusual phrase of "Percy's Mum" appears after the instructions.

The major problem is the movement is difficult. The first few Seodons are easily killed but the last one is nearly impossible. I have guessed this is a number of new games.

instructions	80%
playability	80%
graphics	80%
value for money	75%

★★★★

Music Box Oregon 52 £7.95

Dragon Data, Rediff Industrial
Estate, Margon, Park Talbot, W
Gates SA15 1PD

This program is supplied in the most lovely packaging seen for a Dragon's program at this price. The box is a gem, beautifully decorated, unique area and comes with an excellent book of instructions. The program itself is a form of synthesis: you enter your musical symphony from the computer and then hear it played back to you. Once completed, your masterpiece can be saved and loaded from tape, disk and even played back-music! This has plenty of particularly interesting and

This program does not maintain your through into a real symphony, in the sense which make up the melody, but we have to be trapped in using a special notation system that is reasonably easy to use. Considering that the program offers a number of parameters to the composer. There is a choice of four instruments which are phonetically rendered on the microphone when. After several hours of using the program, you start to get reasonable tapes, although still a long way from the standard of the professional. But, at this price, though, well worth the money.

instructions	70%
type of use	80%
display	80%
value for money	80%

★★★★

Cosmic Bounce Commodore £4 £7.50

Calico, 21 Lombard Rd, Leam,
Essex LU2 2PL

When I first saw the info in this magazine my immediate reaction was, "Oh no, not another space destination game!" Much to my surprise this game turned out to be well designed, amusing and very difficult.

You play the part of the pilot of a "Barracuda". Your task is to protect an energy source from alien-related Seodons. Unlike most games where you have a rapid fire hyperbeam, you have a single plasma bolt. When fired the bolt jet around the screen rather like a ball on a pin ball, until it is hit by a Seodon. On transfer data, it is hit by the power source — you die. To re-visit the plasma bolt, you must crash it with your ship (but be wary lest if the Seodons lose the power source you lose a life).

The design and programming of the game are all a high standard. All movements is smooth and the design of the Seodons is highly amusing.

This is a well produced game which offers great value and will keep your attention for many hours.

instructions	80%
playability	80%
graphics	80%
value for money	80%

★★★★

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Stanley, 28 Ashdon Rd, Brent-
ford, Middlesex SE4 8AH

This program, written by the man behind Babbage Software, is the Extended BASIC version of a TI BASIC program.

If you have ever seen the demonstration programs which used to be run on the TI in schools, then you will have some idea of the potential of this program and package.

By giving the computer instructions in the form of three letter instructions, you can print out, handwriting or virtually in any direction, scroll up or print normally — that is, all you do with upward scroll. You can set screen and character colours, pause for a specified time, and demonstrations can be saved and loaded from other tapes or

disk.

Up to 400 words can be made using this routine, and any file prepared with the TI BASIC version can be run as well — good to use compatibility between the original and the editor.

The documentation is quite good, and must generally be referred to when using the extensive instructions. Suggestions are also given to users those wishing to expand the program's capability and facilities.

instructions	80%
type of use	80%
display	80%
value for money	80%

★★★★

Cowboy/ Barricade Ford MS £8.95

Computer Games, CIL, Mount,
Colony Hill, Loughboro, Essex
S10 1BA

In Cowboy, you start a mission by horse-throwing and you're the cowboy who has to fight them off. The fight action has wonderful men, and the horses are such objects dotted about the screen. You have to watch the carefully moving horses when they are not still while avoiding ropes with the horses, so that will kill you.

Baricade is a simple version of the game they used to be called "Baricade" which, after the shooting of the film "Yankee Doodle", was renamed Light Cycle in Baricade. You are a commander in growing line and must equal thinking with the opponent, the wall, or events which appear at random intervals. Tapped options: two player options, various difficulty levels.

Both games are written easily in BASIC. The program and events are good. However both are well written and the basic instruction booklet is very informative, explaining how to control a mouse controller in your M1, load and play the game.

Overall this package represents fair value for money.

instructions	100%
playability	80%
graphics	80%
value for money	80%

★★★★

COMMODORE 64 PROGRAMS

References

"Will you win a new car?" Papa Cards gives you the chance by allowing you to gamble points on three acres of cards.

The equations are easy to answer, making this a game without the agony, and the well-defined graphics give realistic pictures of each in the range from 10 to 100.

When typing in the program, be especially careful with line 100:100. As well as user-defined graphics, the program also transfers normal graphics from ROM to RAM, and the instruction has to be disassembled while this is done.

Then, if there is a mistake in any of these lines, the program will stop and never reach the part which engages the keyboard. You will not be able to type in settings, and so you will have to switch the computer off and on again, losing the program.

1000

[illegible]

After graphics are defined, the game starts. You go through two long rows and one short row of cards, betting points on whether the sum you will be higher or lower (you are also allowed to change your card or the amount of each bet).

[illegible][illegible]

Table 1

Remove anything to do with FORTRAN (these change modes and store graphics) and all PAINT instructions, change these containing statements. There are few other instructions to be done, and then you can add your own commands to make the program a fully working version on your computer.

but need one-day success, making this an easy game to operate. The object is, by the end of the third row, to get the highest score you can, and if you have achieved 4,000 points or more, you win a prize!

The cards are displayed in full colour, and are as real as it is reasonably possible. They are randomly chosen, and are drawn from the array C(0,20), so a card can never appear twice in one game. Cards are in the range 2 to 10, and ace and face

If you want to see the card graphics in other games, the PWR-T control is at least 1100-1150.

Table 1

C. go number per line
Call card new number
GP (points) gambled
P point you have remaining
I interest card value
TOD to late card value
A prize percentage of card Nevada
I prize position of card Nevada
A25-A28 you won the car
message
A544 car pictures for printing
A554 cards played
A564-75 card counts

• As usual, we have inserted RCMs in the lines above those in which control characters appear. These are only for your guidance when editing the programs and should not be entered. Be particularly careful with the lines containing DATA — there are often several comments in a row.

[illegible]

```

679 IFERR=0 THEN GOTO 688
680 PRINT "ERROR: "
681 GOTO 685
682 IFERR=2 THEN GOTO 688
683 PRINT "ERROR: "
684 GOTO 685
685 IFERR=1 THEN GOTO 688
686 PRINT "ERROR: "
687 GOTO 685
688 IFERR=0 THEN GOTO 688
689 PRINT "ERROR: "
690 GOTO 685
691 IFERR=1 THEN GOTO 688
692 PRINT "ERROR: "
693 GOTO 685
694 IFERR=2 THEN GOTO 688
695 PRINT "ERROR: "
696 GOTO 685
697 IFERR=3 THEN GOTO 688
698 PRINT "ERROR: "
699 GOTO 685
700 IFERR=4 THEN GOTO 688
701 PRINT "ERROR: "
702 GOTO 685
703 IFERR=5 THEN GOTO 688
704 PRINT "ERROR: "
705 GOTO 685
706 IFERR=6 THEN GOTO 688
707 PRINT "ERROR: "
708 GOTO 685
709 IFERR=7 THEN GOTO 688
710 PRINT "ERROR: "
711 GOTO 685
712 IFERR=8 THEN GOTO 688
713 PRINT "ERROR: "
714 GOTO 685
715 IFERR=9 THEN GOTO 688
716 PRINT "ERROR: "
717 GOTO 685
718 IFERR=10 THEN GOTO 688
719 PRINT "ERROR: "
720 GOTO 685
721 IFERR=11 THEN GOTO 688
722 PRINT "ERROR: "
723 GOTO 685
724 IFERR=12 THEN GOTO 688
725 PRINT "ERROR: "
726 GOTO 685
727 IFERR=13 THEN GOTO 688
728 PRINT "ERROR: "
729 GOTO 685
730 IFERR=14 THEN GOTO 688
731 PRINT "ERROR: "
732 GOTO 685
733 IFERR=15 THEN GOTO 688
734 PRINT "ERROR: "
735 GOTO 685
736 IFERR=16 THEN GOTO 688
737 PRINT "ERROR: "
738 GOTO 685
739 IFERR=17 THEN GOTO 688
740 PRINT "ERROR: "
741 GOTO 685
742 IFERR=18 THEN GOTO 688
743 PRINT "ERROR: "
744 GOTO 685
745 IFERR=19 THEN GOTO 688
746 PRINT "ERROR: "
747 GOTO 685
748 IFERR=20 THEN GOTO 688
749 PRINT "ERROR: "
750 GOTO 685
751 IFERR=21 THEN GOTO 688
752 PRINT "ERROR: "
753 GOTO 685
754 IFERR=22 THEN GOTO 688
755 PRINT "ERROR: "
756 GOTO 685
757 IFERR=23 THEN GOTO 688
758 PRINT "ERROR: "
759 GOTO 685
760 IFERR=24 THEN GOTO 688
761 PRINT "ERROR: "
762 GOTO 685
763 IFERR=25 THEN GOTO 688
764 PRINT "ERROR: "
765 GOTO 685
766 IFERR=26 THEN GOTO 688
767 PRINT "ERROR: "
768 GOTO 685
769 IFERR=27 THEN GOTO 688
770 PRINT "ERROR: "
771 GOTO 685
772 IFERR=28 THEN GOTO 688
773 PRINT "ERROR: "
774 GOTO 685
775 IFERR=29 THEN GOTO 688
776 PRINT "ERROR: "
777 GOTO 685
778 IFERR=30 THEN GOTO 688
779 PRINT "ERROR: "
780 GOTO 685
781 IFERR=31 THEN GOTO 688
782 PRINT "ERROR: "
783 GOTO 685
784 IFERR=32 THEN GOTO 688
785 PRINT "ERROR: "
786 GOTO 685
787 IFERR=33 THEN GOTO 688
788 PRINT "ERROR: "
789 GOTO 685
790 IFERR=34 THEN GOTO 688
791 PRINT "ERROR: "
792 GOTO 685
793 IFERR=35 THEN GOTO 688
794 PRINT "ERROR: "
795 GOTO 685
796 IFERR=36 THEN GOTO 688
797 PRINT "ERROR: "
798 GOTO 685
799 IFERR=37 THEN GOTO 688
800 PRINT "ERROR: "
801 GOTO 685
802 IFERR=38 THEN GOTO 688
803 PRINT "ERROR: "
804 GOTO 685
805 IFERR=39 THEN GOTO 688
806 PRINT "ERROR: "
807 GOTO 685
808 IFERR=40 THEN GOTO 688
809 PRINT "ERROR: "
810 GOTO 685
811 IFERR=41 THEN GOTO 688
812 PRINT "ERROR: "
813 GOTO 685
814 IFERR=42 THEN GOTO 688
815 PRINT "ERROR: "
816 GOTO 685
817 IFERR=43 THEN GOTO 688
818 PRINT "ERROR: "
819 GOTO 685
820 IFERR=44 THEN GOTO 688
821 PRINT "ERROR: "
822 GOTO 685
823 IFERR=45 THEN GOTO 688
824 PRINT "ERROR: "
825 GOTO 685
826 IFERR=46 THEN GOTO 688
827 PRINT "ERROR: "
828 GOTO 685
829 IFERR=47 THEN GOTO 688
830 PRINT "ERROR: "
831 GOTO 685
832 IFERR=48 THEN GOTO 688
833 PRINT "ERROR: "
834 GOTO 685
835 IFERR=49 THEN GOTO 688
836 PRINT "ERROR: "
837 GOTO 685
838 IFERR=50 THEN GOTO 688
839 PRINT "ERROR: "
840 GOTO 685
841 IFERR=51 THEN GOTO 688
842 PRINT "ERROR: "
843 GOTO 685
844 IFERR=52 THEN GOTO 688
845 PRINT "ERROR: "
846 GOTO 685
847 IFERR=53 THEN GOTO 688
848 PRINT "ERROR: "
849 GOTO 685
850 IFERR=54 THEN GOTO 688
851 PRINT "ERROR: "
852 GOTO 685
853 IFERR=55 THEN GOTO 688
854 PRINT "ERROR: "
855 GOTO 685
856 IFERR=56 THEN GOTO 688
857 PRINT "ERROR: "
858 GOTO 685
859 IFERR=57 THEN GOTO 688
860 PRINT "ERROR: "
861 GOTO 685
862 IFERR=58 THEN GOTO 688
863 PRINT "ERROR: "
864 GOTO 685
865 IFERR=59 THEN GOTO 688
866 PRINT "ERROR: "
867 GOTO 685
868 IFERR=60 THEN GOTO 688
869 PRINT "ERROR: "
870 GOTO 685
871 IFERR=61 THEN GOTO 688
872 PRINT "ERROR: "
873 GOTO 685
874 IFERR=62 THEN GOTO 688
875 PRINT "ERROR: "
876 GOTO 685
877 IFERR=63 THEN GOTO 688
878 PRINT "ERROR: "
879 GOTO 685
880 IFERR=64 THEN GOTO 688
881 PRINT "ERROR: "
882 GOTO 685
883 IFERR=65 THEN GOTO 688
884 PRINT "ERROR: "
885 GOTO 685
886 IFERR=66 THEN GOTO 688
887 PRINT "ERROR: "
888 GOTO 685
889 IFERR=67 THEN GOTO 688
890 PRINT "ERROR: "
891 GOTO 685
892 IFERR=68 THEN GOTO 688
893 PRINT "ERROR: "
894 GOTO 685
895 IFERR=69 THEN GOTO 688
896 PRINT "ERROR: "
897 GOTO 685
898 IFERR=70 THEN GOTO 688
899 PRINT "ERROR: "
900 GOTO 685
901 IFERR=71 THEN GOTO 688
902 PRINT "ERROR: "
903 GOTO 685
904 IFERR=72 THEN GOTO 688
905 PRINT "ERROR: "
906 GOTO 685
907 IFERR=73 THEN GOTO 688
908 PRINT "ERROR: "
909 GOTO 685
910 IFERR=74 THEN GOTO 688
911 PRINT "ERROR: "
912 GOTO 685
913 IFERR=75 THEN GOTO 688
914 PRINT "ERROR: "
915 GOTO 685
916 IFERR=76 THEN GOTO 688
917 PRINT "ERROR: "
918 GOTO 685
919 IFERR=77 THEN GOTO 688
920 PRINT "ERROR: "
921 GOTO 685
922 IFERR=78 THEN GOTO 688
923 PRINT "ERROR: "
924 GOTO 685
925 IFERR=79 THEN GOTO 688
926 PRINT "ERROR: "
927 GOTO 685
928 IFERR=80 THEN GOTO 688
929 PRINT "ERROR: "
930 GOTO 685
931 IFERR=81 THEN GOTO 688
932 PRINT "ERROR: "
933 GOTO 685
934 IFERR=82 THEN GOTO 688
935 PRINT "ERROR: "
936 GOTO 685
937 IFERR=83 THEN GOTO 688
938 PRINT "ERROR: "
939 GOTO 685
940 IFERR=84 THEN GOTO 688
941 PRINT "ERROR: "
942 GOTO 685
943 IFERR=85 THEN GOTO 688
944 PRINT "ERROR: "
945 GOTO 685
946 IFERR=86 THEN GOTO 688
947 PRINT "ERROR: "
948 GOTO 685
949 IFERR=87 THEN GOTO 688
950 PRINT "ERROR: "
951 GOTO 685
952 IFERR=88 THEN GOTO 688
953 PRINT "ERROR: "
954 GOTO 685
955 IFERR=89 THEN GOTO 688
956 PRINT "ERROR: "
957 GOTO 685
958 IFERR=90 THEN GOTO 688
959 PRINT "ERROR: "
960 GOTO 685
961 IFERR=91 THEN GOTO 688
962 PRINT "ERROR: "
963 GOTO 685
964 IFERR=92 THEN GOTO 688
965 PRINT "ERROR: "
966 GOTO 685
967 IFERR=93 THEN GOTO 688
968 PRINT "ERROR: "
969 GOTO 685
970 IFERR=94 THEN GOTO 688
971 PRINT "ERROR: "
972 GOTO 685
973 IFERR=95 THEN GOTO 688
974 PRINT "ERROR: "
975 GOTO 685
976 IFERR=96 THEN GOTO 688
977 PRINT "ERROR: "
978 GOTO 685
979 IFERR=97 THEN GOTO 688
980 PRINT "ERROR: "
981 GOTO 685
982 IFERR=98 THEN GOTO 688
983 PRINT "ERROR: "
984 GOTO 685
985 IFERR=99 THEN GOTO 688
986 PRINT "ERROR: "
987 GOTO 685
988 IFERR=100 THEN GOTO 688
989 PRINT "ERROR: "
990 GOTO 685
991 IFERR=101 THEN GOTO 688
992 PRINT "ERROR: "
993 GOTO 685
994 IFERR=102 THEN GOTO 688
995 PRINT "ERROR: "
996 GOTO 685
997 IFERR=103 THEN GOTO 688
998 PRINT "ERROR: "
999 GOTO 685
1000 IFERR=104 THEN GOTO 688
1001 PRINT "ERROR: "
1002 GOTO 685
1003 IFERR=105 THEN GOTO 688
1004 PRINT "ERROR: "
1005 GOTO 685
1006 IFERR=106 THEN GOTO 688
1007 PRINT "ERROR: "
1008 GOTO 685
1009 IFERR=107 THEN GOTO 688
1010 PRINT "ERROR: "
1011 GOTO 685
1012 IFERR=108 THEN GOTO 688
1013 PRINT "ERROR: "
1014 GOTO 685
1015 IFERR=109 THEN GOTO 688
1016 PRINT "ERROR: "
1017 GOTO 685
1018 IFERR=110 THEN GOTO 688
1019 PRINT "ERROR: "
1020 GOTO 685
1021 IFERR=111 THEN GOTO 688
1022 PRINT "ERROR: "
1023 GOTO 685
1024 IFERR=112 THEN GOTO 688
1025 PRINT "ERROR: "
1026 GOTO 685
1027 IFERR
```

COMMODORE 64 PROGRAMS

```

1110 FOR=1000 PRINT NEXT
1120 PRINTSPC(3); " "
1130 FOR=0 TO 9
1140 PRINTSPC(10); CHR$(144); " "
1150 FOR=0 TO 9
1160 IF=0 THEN PRINTSPC(10); " "
1170 PRINTSPC(10); CHR$(144); " "
1180 PRINTSPC(10); CHR$(144); " "
1190 NEXT
1200 PRINT "CHR$(144); "
1210 NEXT
1220 PRINTSPC(3); " "
1230 PRINTSPC(10); CHR$(144); " "
1240 PRINTSPC(10); " "
1250 FOR=0 TO 9 PRINT NEXT
1260 PRINTSPC(10); " "
1270 IF=0 THEN PRINT " "
1280 PRINTSPC(10); CHR$(144); " "
1290 IF=0 THEN PRINT " "
1300 PRINTSPC(10); CHR$(144); " "
1310 PRINTSPC(10); CHR$(144); " "
1320 IF=0 THEN PRINTSPC(10); CHR$(144); " "
1330 PRINTSPC(10); " "
1340 IF=0 THEN PRINTSPC(10); CHR$(144); " "

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1310 FOR=0 TO 9
1320 IF=0 THEN PRINTSPC(10); CHR$(144); " "
1330 PRINTSPC(10); " "
1340 FOR=0 TO 9
1350 PRINTSPC(10); CHR$(144); " "
1360 PRINTSPC(10); CHR$(144); " "
1370 PRINTSPC(10); CHR$(144); " "
1380 PRINTSPC(10); CHR$(144); " "
1390 PRINTSPC(10); CHR$(144); " "
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1410 PRINTSPC(10); CHR$(144); " "
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1440 PRINTSPC(10); CHR$(144); " "
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1470 PRINTSPC(10); CHR$(144); " "
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1520 PRINTSPC(10); CHR$(144); " "
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1540 PRINTSPC(10); CHR$(144); " "
1550 PRINTSPC(10); CHR$(144); " "
1560 PRINTSPC(10); CHR$(144); " "
1570 PRINTSPC(10); CHR$(144); " "
1580 PRINTSPC(10); CHR$(144); " "
1590 PRINTSPC(10); CHR$(144); " "
1600 PRINTSPC(10); CHR$(144); " "
1610 PRINTSPC(10); CHR$(144); " "
1620 PRINTSPC(10); CHR$(144); " "
1630 PRINTSPC(10); CHR$(144); " "
1640 PRINTSPC(10); CHR$(144); " "
1650 PRINTSPC(10); CHR$(144); " "
1660 PRINTSPC(10); CHR$(144); " "
1670 PRINTSPC(10); CHR$(144); " "
1680 PRINTSPC(10); CHR$(144); " "
1690 PRINTSPC(10); CHR$(144); " "
1700 PRINTSPC(10); CHR$(144); " "
1710 PRINTSPC(10); CHR$(144); " "
1720 PRINTSPC(10); CHR$(144); " "
1730 PRINTSPC(10); CHR$(144); " "
1740 PRINTSPC(10); CHR$(144); " "
1750 PRINTSPC(10); CHR$(144); " "
1760 PRINTSPC(10); CHR$(144); " "
1770 PRINTSPC(10); CHR$(144); " "
1780 PRINTSPC(10); CHR$(144); " "
1790 PRINTSPC(10); CHR$(144); " "
1800 PRINTSPC(10); CHR$(144); " "
1810 PRINTSPC(10); CHR$(144); " "
1820 PRINTSPC(10); CHR$(144); " "
1830 PRINTSPC(10); CHR$(144); " "
1840 PRINTSPC(10); CHR$(144); " "
1850 PRINTSPC(10); CHR$(144); " "
1860 PRINTSPC(10); CHR$(144); " "
1870 PRINTSPC(10); CHR$(144); " "
1880 PRINTSPC(10); CHR$(144); " "
1890 PRINTSPC(10); CHR$(144); " "
1900 PRINTSPC(10); CHR$(144); " "
1910 PRINTSPC(10); CHR$(144); " "
1920 PRINTSPC(10); CHR$(144); " "
1930 PRINTSPC(10); CHR$(144); " "
1940 PRINTSPC(10); CHR$(144); " "
1950 PRINTSPC(10); CHR$(144); " "
1960 PRINTSPC(10); CHR$(144); " "
1970 PRINTSPC(10); CHR$(144); " "
1980 PRINTSPC(10); CHR$(144); " "
1990 PRINTSPC(10); CHR$(144); " "

```



Timelapse Software

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This book will show you some of the professional programming secrets that every serious Spectrum BASIC programmer should know. Full of hints and tips to demonstrate the full power of Spectrum in the T199/4A.

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CONQUEST A tactical game which even veteran players will find both challenging and rewarding.

Mediterranean Europe is divided into grid squares. Your aim as Emperor is to gain 100 squares of territory as quickly as possible — at the same time dealing with Barbarian counter attacks, players, civil war and rival Emperors.

Stevens of skill plus a continuous Conquest game where all the difficulty levels are thrown in together.

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4 levels of skill. At each level the game gets faster and more complicated, and the vampires more dangerous.

CheetahSoft

Soft we're not

FOR SPECTRUM 48K



3D BAT ATTACK

AFTER THESE, THE REST IS KIDS STUFF.

Are you ready for CheetahSoft?

There's only one way to find out:

But be warned! These vampire bats know a good meal when they see one. And our friends with the scythe has half a year's experience...

CheetahSoft

Soft we're not

So don't play unless you're ready to play the game for real. Because you'll find there's one sure thing about CheetahSoft: Soft we're not.

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good stores.



In the interests of security, collect without appointments or period of collection. Always call and be sure.



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and
THE LADDERS

Willie, Marlene, and Shorty.
If you have a
you missed a lot of FUN
Don't worry
LOMEL will
change that



FLUOROPOLYMER TEST FOR THE TEMPA
\$595



- Pick your own team for each match
- As many seasons as you like
- Managerial rating
- 7 skill levels
- Save game facility



addictive

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.....

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[illegible]

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[illegible][illegible]

Table 1

[illegible]

Figure 1

MAIL ORDER

**PRICE
BREAK THROUGH**

SPECIAL OFFER

AGF Joystick Interface II for Spectrum or ZX81

How the 2007 Schedule E is used: Since we generated the latest tax returns in October 1992 there are approximately 100 million returns with the 2007 schedule in some tax countries - the main reason is that the schedule is used in many countries.

While investigating the all important non-accident causes, which involve those participants not so involved in the game itself, e.g. Road Signs, Signals, Speed, etc. and all create the behavioural context and background for the game itself, the following are the main findings:

Report your best fit for controlling risk to your New York Superior court case (see page 100) and the purchase price of our (1) [New York Superior court case](#)

As with any other business, all roads with any industry standard practice come from a single source: **customer demand**. And it's the customer's demand that drives the industry.

[illegible]

995

Joysticks

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These two different approaches to the analysis, notwithstanding the fact that the distributions of the two measures are almost identical in the empirical data, are presented in Figure 1.

The new classification is not important in itself, with a larger and living animal is not as precise being assigned a family than to genus and species status. The new list, which is the most, what about a number of people and other animals, including with other people is important for the

19. <http://www.fishbase.org>

895



QuickShot

QuickShot III

1195



25% discount off our Programmable Interface—valid 1 year on orders over £18

FREE free m/c arcade game with 100,000 credits—home use only

so ~~much~~...
post free both ways

[illegible]

DATE	DESCRIPTION	DEBIT	CREDIT	BALANCE
1999				
1/1	Balance			100.00
1/2	Depreciation	10.00		90.00
1/3	Interest		5.00	95.00
1/4	Dividend		2.00	97.00
1/5	Withdrawal	5.00		92.00
1/6	Deposit		10.00	102.00
1/7	Transfer	10.00		92.00
1/8	Interest		5.00	97.00
1/9	Dividend		2.00	99.00
1/10	Withdrawal	5.00		94.00
1/11	Deposit		10.00	104.00
1/12	Transfer	10.00		94.00
1/13	Interest		5.00	99.00
1/14	Dividend		2.00	101.00
1/15	Withdrawal	5.00		96.00
1/16	Deposit		10.00	106.00
1/17	Transfer	10.00		96.00
1/18	Interest		5.00	101.00
1/19	Dividend		2.00	103.00
1/20	Withdrawal	5.00		98.00
1/21	Deposit		10.00	108.00
1/22	Transfer	10.00		98.00
1/23	Interest		5.00	103.00
1/24	Dividend		2.00	105.00
1/25	Withdrawal	5.00		100.00
1/26	Deposit		10.00	110.00
1/27	Transfer	10.00		100.00
1/28	Interest		5.00	105.00
1/29	Dividend		2.00	107.00
1/30	Withdrawal	5.00		102.00
1/31	Deposit		10.00	112.00
1/32	Transfer	10.00		102.00
1/33	Interest		5.00	107.00
1/34	Dividend		2.00	109.00
1/35	Withdrawal	5.00		104.00
1/36	Deposit		10.00	114.00
1/37	Transfer	10.00		104.00
1/38	Interest		5.00	109.00
1/39	Dividend		2.00	111.00
1/40	Withdrawal	5.00		106.00
1/41	Deposit		10.00	116.00
1/42	Transfer	10.00		106.00
1/43	Interest		5.00	111.00
1/44	Dividend		2.00	113.00
1/45	Withdrawal	5.00		108.00
1/46	Deposit		10.00	118.00
1/47	Transfer	10.00		108.00
1/48	Interest		5.00	113.00
1/49	Dividend		2.00	115.00
1/50	Withdrawal	5.00		110.00
1/51	Deposit		10.00	120.00
1/52	Transfer	10.00		110.00
1/53	Interest		5.00	115.00
1/54	Dividend		2.00	117.00
1/55	Withdrawal	5.00		112.00
1/56	Deposit		10.00	122.00
1/57	Transfer	10.00		112.00
1/58	Interest		5.00	117.00
1/59	Dividend		2.00	119.00
1/60	Withdrawal	5.00		114.00
1/61	Deposit		10.00	124.00
1/62	Transfer	10.00		114.00
1/63	Interest		5.00	119.00
1/64	Dividend		2.00	121.00
1/65	Withdrawal	5.00		116.00
1/66	Deposit		10.00	126.00
1/67	Transfer	10.00		116.00
1/68	Interest		5.00	121.00
1/69	Dividend		2.00	123.00
1/70	Withdrawal	5.00		118.00
1/71	Deposit		10.00	128.00
1/72	Transfer	10.00		118.00
1/73	Interest		5.00	123.00
1/74	Dividend		2.00	125.00
1/75	Withdrawal	5.00		120.00
1/76	Deposit		10.00	130.00
1/77	Transfer	10.00		120.00
1/78	Interest		5.00	

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Alas is lost and cannot find his way back to the spaceship unless you help. You have to guide him up the ladders, avoiding the booles.

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The game also has a "Choose your own volume" feature so your family won't be bothered by the noise! It runs on 14K and will work on any Oric or Atmos.

How it works

00-00: graphics
00-00: get score and reset
00-00: -000, -000, -000, -000
00-00: left, right, down, up
00-00:0000: update score
00-00:0000: reset level 1, level 2, level 3
00-00:0000: replace characters
00-00:0000: awarded
00-00:0000: on up screen
00-00:0000: lost a life
00-00:0000: reset
00-00:0000: more to watch
score

Variables

A,B: position of alien
C,B,E,F: position of spawning
D,E,I,J,K,L: position of boole

How to control

PILOT can be replaced by PRINT AT, PAPER and INC changed the colour of the screen, SCRN shows what is on the screen, A,B is the alien's x and y, and P,B is the alien's x and y.

```

1: reset
2: print at 0,0, "P"
3: print at 0,0, "P"
4: print at 0,0, "P"
5: print at 0,0, "P"
6: print at 0,0, "P"
7: print at 0,0, "P"
8: print at 0,0, "P"
9: print at 0,0, "P"
10: print at 0,0, "P"
11: print at 0,0, "P"
12: print at 0,0, "P"
13: print at 0,0, "P"
14: print at 0,0, "P"
15: print at 0,0, "P"
16: print at 0,0, "P"
17: print at 0,0, "P"
18: print at 0,0, "P"
19: print at 0,0, "P"
20: print at 0,0, "P"
21: print at 0,0, "P"
22: print at 0,0, "P"
23: print at 0,0, "P"
24: print at 0,0, "P"
25: print at 0,0, "P"
26: print at 0,0, "P"
27: print at 0,0, "P"
28: print at 0,0, "P"
29: print at 0,0, "P"
30: print at 0,0, "P"
31: print at 0,0, "P"
32: print at 0,0, "P"
33: print at 0,0, "P"
34: print at 0,0, "P"
35: print at 0,0, "P"
36: print at 0,0, "P"
37: print at 0,0, "P"
38: print at 0,0, "P"
39: print at 0,0, "P"
40: print at 0,0, "P"
41: print at 0,0, "P"
42: print at 0,0, "P"
43: print at 0,0, "P"
44: print at 0,0, "P"
45: print at 0,0, "P"
46: print at 0,0, "P"
47: print at 0,0, "P"
48: print at 0,0, "P"
49: print at 0,0, "P"
50: print at 0,0, "P"
51: print at 0,0, "P"
52: print at 0,0, "P"
53: print at 0,0, "P"
54: print at 0,0, "P"
55: print at 0,0, "P"
56: print at 0,0, "P"
57: print at 0,0, "P"
58: print at 0,0, "P"
59: print at 0,0, "P"
60: print at 0,0, "P"
61: print at 0,0, "P"
62: print at 0,0, "P"
63: print at 0,0, "P"
64: print at 0,0, "P"
65: print at 0,0, "P"
66: print at 0,0, "P"
67: print at 0,0, "P"
68: print at 0,0, "P"
69: print at 0,0, "P"
70: print at 0,0, "P"
71: print at 0,0, "P"
72: print at 0,0, "P"
73: print at 0,0, "P"
74: print at 0,0, "P"
75: print at 0,0, "P"
76: print at 0,0, "P"
77: print at 0,0, "P"
78: print at 0,0, "P"
79: print at 0,0, "P"
80: print at 0,0, "P"
81: print at 0,0, "P"
82: print at 0,0, "P"
83: print at 0,0, "P"
84: print at 0,0, "P"
85: print at 0,0, "P"
86: print at 0,0, "P"
87: print at 0,0, "P"
88: print at 0,0, "P"
89: print at 0,0, "P"
90: print at 0,0, "P"
91: print at 0,0, "P"
92: print at 0,0, "P"
93: print at 0,0, "P"
94: print at 0,0, "P"
95: print at 0,0, "P"
96: print at 0,0, "P"
97: print at 0,0, "P"
98: print at 0,0, "P"
99: print at 0,0, "P"
100: print at 0,0, "P"

```


It's two of you versus the BBC
micro. Who'll come out ahead
in Geoff Turner's hidden
Numbers program?

Find the numbers and foil your micro



```

10 REM *****
20 REM * HIDDEN NUMBERS *
30 REM * By Geoff Turner *
40 REM * 1984 *
50 REM *****
60 ON ERROR GOTO REPORT:PRINT:END

70 #TV255
80 MODE7
90 PRINTAB(8,5);STRING$(18,"")
100 PRINT
110 PRINTAB(10,0);CHR$(141);CHR$(129);"HIDDEN NUMBE
RS"
120 PRINTAB(10,7);CHR$(141);CHR$(129);"HIDDEN NUMBE
RS"
130 PRINTAB(11,10);CHR$(134);"By Geoff Turner"
140 PRINTAB(8,13);STRING$(18,"")
150 PRINTAB(2,20);CHR$(134);"DO YOU WANT INSTRUCTIONS
? (Y/N) "
160 IS=INKEY$(3);IF IS="" THEN 160
170 IF IS="Y" THEN PROCINSTRUCTIONS

```


Hidden Numbers is a game for one or two players against the computer. At the start of the game the computer generates 100 numbers between one and 50, and hides them in a 10 x 10 matrix. Each player takes a turn to uncover any two numbers, in an attempt to find two identical.

If he is successful, the player scores points to the value of the exposed numbers, and the pair are removed from the board. The game continues until all the numbers have been uncovered from the screen, and the winner is the player with most points.

To enable the computer to have a reasonable chance of winning the game, it has been programmed to remember the last five numbers exposed. I have found this to be a reasonable amount of memory to enable the computer to compete with an human opponent.

Playing the game is fairly easy. When the board is displayed, the first player is chosen at random, and his/her name is displayed at the bottom.

How it works
80-100 display the instructions, by using instructions
100 call PROCINIT to initialise variables
200 call PROCMAIN to set up screen display
300 starts a repeat loop which continues to call main loop PROCMAIN until there are no numbers left on screen
300-380 game begins to play again if lost
380-420 initialise PROCMAIN several arrays and variables are set to their initial values
420 PROCMAIN also sets how many players, and their names. The hidden numbers are generated at lines 530 to 540. Note that this can take several seconds.
540-560 display instructions if required
570-620 set up screen display. All hidden numbers are covered by a T in this stage.
630 moves the main loop. Each player's turn consists of one pass through the loop. The PROCMAIN screen repeats from the player and choice validity. After two valid numbers are selected, line 640 draws the program to check for two identical numbers.
650-660 deposit exposed numbers in memory.
670-710 check for winning combinations, increase scores.
720-750 select player's screen to be shown.
760-780 main game with valid only message.
790-820 generate computer's choice.
830-850 check memory for winning number.

```

100 PROCINITIALISE
110 MODE2
200 VLOC3,1,0,0,0,0,0,0,0,0
210 PROCGREEN
220 REPEAT
230 PROCHAINLOOP
240 UNTIL LEFTS=0
250 PROCEAD
260 PRINTTAB(1,120);"PLAY AGAIN (Y/N) ?";
270 IF INKEY$(0)=1 IF "Y" THEN CLEAR:RUN
280 IF 14<>"N" THEN 270
290 HOME?
300 END
310 DEFPROCINITIALISE
320 ENVELOPE 1,2,-25,-50,-6,15,0,0,120,0,0,-120,120,1
330 ENVELOPE 2,1,-34,-93,-9,11,0,0,120,0,0,-120,120,1
340 LEFTS=50
350 DIM NAME$(3)
360 DIM FX(10,10)
370 DIM SC$(3)
380 DIM M2(5)
390 DIM G3(5)
400 DIM G4(5)
410 MEM=1
420 DLS
430 PRINTTAB(2,50);"HOW MANY PLAYERS (1 or 2) ?";
440 INPUT"NM
450 NM=INT(NM):IF NM<1 OR NM>2 THEN YOU?:GOTO 420
460 PRINTTAB(2,50);"PLAYER ONE ENTER YOUR NAME";CHR$(1)
390:INPUT"NAME(1)";
470 IF NM=2 PRINTTAB(2,100);"PLAYER TWO ENTER YOUR NAME";CHR$(1)
480:INPUT"NAME(2)";ELSE NAME(2)=""
490 NAME(3)=""
500 G4=""
510 FOR I=1 TO 3
510 SC$(I)=0
520 NEXT
530 T3=NM*(NM+1)
540 PRINTTAB(2,150);"PLEASE WAIT WHILST I HIDE THE NUM
550
560 FOR RS=1 TO 10
560 FOR IC=1 TO 10
570 M2=INT(100):M2=M2-RND(100)
580 IF FLOC2,M2<0 THEN S20
590 FLOC2,M2)=M2
600 NEXT
610 NEXT
620 ENDPROC
630 DEFPROCINSTRUCTIONS

```

of the screen. The player enters his first choice with a letter and a number, e.g. A3 or G5 etc. The computer checks the validity of the chosen number and then exposes the number on the screen. The player is then prompted to make a second choice and the procedure is repeated.

When it is the computer's turn to play, the message HIDE THINKING is displayed, and the computer makes its selection. The first number

chosen is completely random, but the second may be taken from the computer's memory of a match it found at, alternatively, a second random number is chosen.

In the later stages of the game, the computer's thinking time will be longer, as it may have to make many random selections before a valid number is found.

Hidden Numbers runs on about 4K on a BBC model B in mode 2. Model A users may use

mode 1 with slight variation to the values used.

Main variables
LEFTS numbers left on screen
NAME\$(1) player's name
FX(1,1) value of each hidden number
SC\$(1) player's score
M2(1) both's memory counter
G3(1) both's memory
G4 both's memory
MEM number of players
T3 turn number
SLOC2 player's first selection
GLOC2 player's second selection

```

640 CLG
650 PRINT
660 PRINT "A GAME FOR ONE OR TWO PLAYERS AGAINST"
670 PRINT "THE COMPUTER."
680 PRINT
690 PRINT "THERE ARE ONE HUNDRED HIDDEN NUMBERS"
700 PRINT "DISPLAYED ON THE SCREEN. YOU HAVE TO"
710 PRINT "FIND TWO EQUAL NUMBERS TO SCORE POINTS"
720 PRINT
730 PRINT "HIGHER NUMBERS SCORE MORE POINTS."
740 PRINT
750 PRINT "IF YOU FIND TWO STARS * YOU WILL"
760 PRINT "SCORE TWENTY POINTS"
770 PRINT
780 PRINT "ENTER YOUR CHOICE WITH A LETTER AND"
790 PRINT "NUMBER LIKE THIS :- AS OR BS ETC.."
800 PRINT
810 PRINT "THE GAME ENDS WHEN ALL NUMBERS ARE"
820 PRINT "UNCOVERED"
830 PRINT:PRINT:PRINT:
840 PRINT "PRESS SPACE BAR."
850 REPEAT UNTIL INKEY=-99
860 ENDPROC
870 DEFPROCSDEN
880 COLOUR 6
890 PRINT " A B C D E F G H I J"
900 FOR I=0 TO 9
910   PRINTAS(0,11+21+22);I
920   NEXT
930 COLOUR2
940 FOR I=1 TO 19 STEP 2
950   FOR Y=2 TO 28 STEP 2
960     PRINTTAB(X,Y);AS(I)
970   NEXT
980 NEXT
990 COLOUR 7
1000 PRINTAS(0,22);STRING$(28," ")
1010 COLOUR 1
1020 PRINT "SCORES"
1030 PRINT
1040 COLOUR 6
1050 FOR I=1 TO 2
1060   PRINT LEFT$(NAME$(I),2)
1070   PRINT
1080 NEXT
1090 IF NM=2 PRINT NAME$(2)
1100 MOVE 784,0
1110 DRAW 784,9+32
1120 ENDPROC
1130 DEFPROCWASHLOOP
1140 PROCSDEN
1150 TX=TX+1;IF TX-NM=2 THEN TX=1
1160 FOR I=1 TO 4
1170   PRINTAS(12,22+11+21);SPC(20)
1180 NEXT
1190 COLOUR 11
1200 PRINT TAB(12,24);LEFT$(NAME$(TX),4); "S"
1210 IF NAME$(TX)="BESS" PRINT TAB(12,26); "THINKING" C
1220 PRINT TAB(12,28); "TURN"
1230 COLOUR 7
1230 PRINTTAB(12,29);"1  "
1240 IF NAME$(TX)="BESS" THEN PROCSDEN(1) ELSE G1=GET
1250 IF G1<65 OR G1>74 GOTO 1240

```

```

1260 MID=01-64
1270 IF NAME$(IT2)<"DEED" PRINTTAB(15,30);CHR$(01);
1280 IF NAME$(IT2)="DEED" THEN PROCEED(12) ELSE 02=02
1290 IF 02<40 OR 02>57 VOUT:GOTO 1300
1300 MID=02-47
1310 IF F1(M1,M12)=0 THEN 1320
1320 IF NAME$(IT2)="DEED" PRINTTAB(15,30);CHR$(01);
1330 PRINTTAB(16,30);CHR$(01);
1340 IF F1(M1,M12)<10 PRINTTAB(01+01-129,02+01-94);
F1(M1,M12); ELSE PRINTTAB(01+02-129,02+01-94);"e"
1350 PRINTTAB(12,30);"2"
1360 IF NAME$(IT2)="DEED" THEN PROCEED(13) ELSE 03=02
1370 IF 03<40 OR 03>74 VOUT:GOTO 1380
1380 MID=03-64
1390 IF NAME$(IT2)<"DEED" PRINTTAB(15,30);CHR$(03);
1400 IF NAME$(IT2)="DEED" THEN PROCEED(14) ELSE 04=03
1410 IF 04<40 OR 04>57 VOUT:GOTO 1420
1420 MID=04-47
1430 IF F1(M2,M22)=0 THEN 1440
1440 IF 01=03 AND 02=04 VOUT:GOTO 1450
1450 IF NAME$(IT2)="DEED" PRINTTAB(15,30);CHR$(03);
1460 PRINTTAB(16,30);CHR$(04);
1470 IF F1(M2,M22)<10 PRINTTAB(03+01-129,04+01-94);
F1(M2,M22); ELSE PRINTTAB(03+02-129,04+01-94);"e";
1480 PROCEED
1490 FOR TM=1 TO 5000:NEXT
1500 COLUR:2
1510 PRINTTAB(01+01-129,02+01-94);04
1520 PRINTTAB(03+01-129,04+01-94);04
1530 REM=REM+1;IF REM=6 THEN REM=1
1540 03(REM)=01
1550 04(REM)=02
1560 F1(REM)=F1(M1,M12)
1570 REM=REM+1;IF REM=6 THEN REM=1
1580 03(REM)=03
1590 04(REM)=04
1600 F1(REM)=F1(M2,M22)
1610 ENDPROC
1620 DEFPROCCHK
1630 IF F1(M1,M12)<F1(M2,M22) THEN A$="?" :SOUND 0,
2,50,5:ENDPROC
1640 A$=""
1650 SOUND 1,1,200,10
1660 LEFT$=LEFT$-1
1670 IF F1(M1,M12)<10 SEC$(IT2)=SEC$(IT2)+F1(M1,M12) ELSE
SEC$(IT2)=SEC$(IT2)+00
1680 F1(M1,M12)=0;F1(M2,M22)=0
1690 03(REM)=0;04(REM)=0
1700 03(REM-1)=0;04(REM-1)=0
1710 ENDPROC
1720 DEFPROCSCORE
1730 COLUR:1
1740 FOR 0=1 TO RM+1
1750 P=10
1760 IF 0<100 THEN P=0
1770 IF 0<100 THEN P=0
1780 PRINTTAB(1P,20+08+01);SEC$(0);
1790 NEXT
1800 ENDPROC
1810 DEFPROCEND
1820 COLUR:0
1830 0$="GAME OVER"
1840 FOR 1=1 TO LEN 0$

```

BBC PROGRAM

54
28
27

```

1850 PRINTAR(4+I,181+PI*34184,I,12)
1860 SOUND 1,-15,180,5
1870 TIME=0:REPEAT UNTIL TIME>50
1880 NEXT
1890 SOUND 1,-15,180,20
1900 ENDPROC
1910 DEFPROCBBB(0)
1920 FOR Q=1 TO 1880:NEXT
1930 ON Q GOTO 1940,1950,1960,1960,1960
1940 G3=END(181+44):ENDPROC
1950 G2=END(181+47):ENDPROC
1960 PROCCHORDY:IF M=1:ENDPROC
1970 G3=END(181+44):ENDPROC
1980 IF M=1 THEN ENDPROC
1990 G4=END(181+47):ENDPROC
2000 ENDPROC
2010 DEFPROCCHORDY
2020 M=0
2030 I=1
2040 REPEAT
2050 IF F(1813,PIK)=PG(I) THEN G3=G3(I):G4=G4(I):M=1
2060 I=I+1:G1=G3 AND G2=G4 THEN M=0
2070 UNTIL I=0 OR M=1
2080 ENDPROC
    
```

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Colditz Adventure 48K Spectrum £8.95

Phaser Associates, LTD Kingston
St. Leon, Surrey

A tight screen action/adventure, 'You are, naturally enough, in no danger. An explosion out of clouds tears the landscape floorboards, logs, broken glass, rope, a gun and so on.

The landscape themselves are numerous and varied. If you drop a rope on a stone coffin it'll have together with wire fence, candles in various state of paper and lot of grass. Not only must you escape the castle but also get inside to the interior.

The graphics are limited to a modest window and, at common

with the hiding, don't show every location. They are made but efficient and are chosen consistently rapidly. The vocabulary too is limited to the simple phrases followed by the adjectives and nouns and the HELP feature is equally simple. The words seem to be chosen with much more gusto than in other adventures I've recently seen.

The sound **SAVE GAME** feature is provided for use when pausing, time or back, you can't. For most the interface and the graphics are in a standard Colditz box.

low graphics	80%
playability	75%
graphics	55%
value for money	70%



Fighter Pilot TI-99/4A £6

Schubert, 20 Altona Rd, South
port, Cheshire

Search and destroy is the name of the game. Enemy planes must be destroyed before they have the opportunity to bomb you. You start with five fuel and awarded one more after 5000 points.

The graphics is good in comparison with the keyboard to control speed, height and direction. The screen shows a

large panel with targets for all given the screen is well as radar that helps you avoid it. It's looking for the enemy the fighter must be taken from the screen. The fuel gauge can be quickly refuelled by pressing to find the requirements for a perfect take off.

Once in the air you launch the attack on the enemy who has the added advantage of cloud cover. For each adversary the, power has awarded. Failing to kill an enemy aircraft will probably find you are fighter lost and back on the ground?

When you feel you've had enough you may return to the ground — but only if your fuel is near too high and more importantly, it you are not to be disappointed that you don't find the runway.

low graphics	55%
playability	70%
graphics	70%
value for money	65%



The Ring of Darkness 48K Spectrum £9.95

Windsor, 201 Ipswich Road Rd,
Ipswich, Essex IP1 1PT

A delicate game where you act as a vampire slayer in a more graphic than just. Having decided who and when you see, you flip the screen and **LOAD** the more graphic really look.

A graphics feature on its own may sound like a gimmick, but it is. Compared with other, you and your. Assisted by a number of screens, your spells gradually drive and enhanced game. However the time progressively making something. Other screens in one of the huge and a game will be for.

As you play you gain a reputation, additional food, money and so on. As you become, displayed on simple, a simple style, where the opportunity to help for food, even, weapon and so on. Some, after several minutes, in underground maze driven or other line ID, which requires no more code to be **LOAD**ed. Indeed, on some occasions you will need to flip the screen.

As a bonus of the game is a virtual window. Though not character and the game responds to a really different way. Implementation on Microdrive would add speed to what is already quite a sophisticated game.

Although the graphics and sound are not as good as some, well worth looking at.

low graphics	80%
playability	80%
graphics	85%
value for money	75%



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New simulations and
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and Sord reviewed and star
rated by our panel

Real Tennis Sord MS £23.95

Computer Games, Goldhawk Hill
Lougham, Essex SS20 2LR

This must be one of the most important tennis simulations available for any machine. It has absolutely nothing to do with traditional tennis games but is a proper simulation in 1D.

The game is displayed giving you a new order like the other you get mostly from Windsord. From the court to, for some strange reason, light orange and yellow.

The control way to play is to move your man, who is, incidentally, nameless well, wanted, to the ball and the man will automatically go to the ball back. But of you're looking

adventures, you can try to hit or ground stroke. You can play another person or the computer for a reward, the computer is amazingly good in this game. It even holds its own in that and its server is almost to meet!

Overall, this has some of the most impressive graphics I have ever seen. It's a very realistic and accurate in simply realistic. Microdrive version in detail, right down to the shadow on the ball stroke that out of the ball, if not the ball, tennis game on the screen, you as well as in any other 'real' game.

low graphics	90%
playability	90%
graphics	90%
value for money	80%



Heavy Boxing Sord MS £23.95

Computer Games, Goldhawk Hill
Lougham, Essex SS20 2LR

This game certainly attempts to create some of the atmosphere of heavy boxing and a quite good job is done too.

The ring is displayed, the crowd on the background cheer and whistle and wave their arms with excitement. But the game may. The two fighters stand up and move towards the middle of the ring. The fight is on. You move your fighter with your joystick and **DOWN** punches if your opponent whose punches can be avoided by ducking or throwing wild punches. **DOWN** a throw on the bottom of the screen and every time you are hit, it goes down. The fight is over when you or your opponent are knocked out, at which time, if a number of hits, it's over the system to play the character in a human player.

Advances in graphics and the version in how brightly which your place on the floor being almost in appearance. The realistic detail on your hand punches and head details with it the shadow of the boxing ring, the game is more. The only thing you get to watch for is not to break your jawline when caught the mouth?

low graphics	80%
playability	70%
graphics	70%
value for money	80%





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| 7 Space Pilot | Amiga | GM 84-05 |
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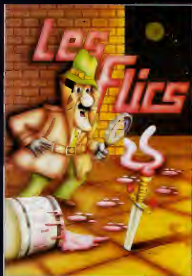
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